



PATENT  
Attorney Docket No.: SNS-010C1  
(7268/17)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Goodwin *et al.*  
SERIAL NO.: 10/650,155 GROUP NO.: Not Yet Assigned  
FILING DATE: August 28, 2003 EXAMINER: Not Yet Assigned  
TITLE: 3-D Selection and Manipulation With a Multiple Dimension Haptic Interface

**CERTIFICATE OF FIRST CLASS MAILING UNDER 37 C.F.R. 1.8**

I hereby certify that this correspondence, and any documents referred to as enclosed herein, are being deposited with the United States Postal Service as first class mail, postage prepaid, in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 22<sup>nd</sup> day of January, 2004.

  
\_\_\_\_\_  
Emily Walsh

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Submitted herewith are:

1. Transmittal Form (1 pg.);
2. First Supplemental Information Disclosure Statement (2 pgs.);
3. Form PTO-1449 (3 pgs.);
4. Cited References A169-A175 and C69-C116; and
5. Return Receipt Postcard.



# TRANSMITTAL FORM

Application Serial Number	10/650,155
Filing Date	August 28, 2003
First Named Inventor	Goodwin
Group Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket No.	SNS-010C1
Patent No.	Not applicable
Issue Date	Not applicable

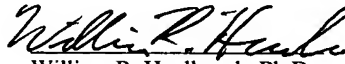
## ENCLOSURES (check all that apply)

<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Check Attached <input type="checkbox"/> Copy of Fee Transmittal Form	<input type="checkbox"/> Copy of Notice to File Missing Parts of Application <input type="checkbox"/> Formal Drawing(s)	<input type="checkbox"/> Notice of Appeal to Board of Patent Appeals and Interferences <input type="checkbox"/> Appeal Brief (in triplicate)
<input type="checkbox"/> Amendment/Response <input type="checkbox"/> Preliminary <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Letter to Official Draftsperson including Drawings [Total Sheets _____]	<input type="checkbox"/> Request For Continued Examination (RCE) Transmittal <input type="checkbox"/> Power of Attorney (Revocation of Prior Powers) <input type="checkbox"/> Terminal Disclaimer	<input type="checkbox"/> Status Inquiry <input checked="" type="checkbox"/> Return Receipt Postcard <input checked="" type="checkbox"/> Certificate of First Class Mailing under 37 C.F.R. 1.8 <input type="checkbox"/> Certificate of Facsimile Transmission under 37 C.F.R. 1.8
<input type="checkbox"/> Petition for Extension of Time	<input type="checkbox"/> Executed Declaration and Power of Attorney for Utility or Design Patent Application	<input type="checkbox"/> Additional Enclosure(s) (please identify below)
<input checked="" type="checkbox"/> First Information Disclosure Statement <input checked="" type="checkbox"/> Form PTO-1449 <input checked="" type="checkbox"/> Copies of IDS Citations (A169-A175 & C69-C116)	<input type="checkbox"/> Small Entity Statement <input type="checkbox"/> CD(s) for large table or computer program	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> Amendment After Allowance	
<input type="checkbox"/> Sequence Listing submission <input type="checkbox"/> Paper Copy/CD <input type="checkbox"/> Computer Readable Copy <input type="checkbox"/> Statement verifying identity of above	<input type="checkbox"/> Request for Certificate of Correction <input type="checkbox"/> Certificate of Correction (in duplicate)	

## CORRESPONDENCE ADDRESS

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Testa, Hurwitz & Thibault, LLP  
High Street Tower  
125 High Street  
Boston, MA 02110  
Tel. No.: (617) 248-7000  
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## SIGNATURE BLOCK

Respectfully submitted,  
  
Date: January 22, 2004  
Reg. No.: 53,002  
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Fax No.: (617) 248-7100  
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Alexandria, VA 22313-1450

**FIRST SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

Sir:

In accordance with the provisions of 37 C.F.R. 1.97 and 1.98, Applicants hereby make of record the patents and publications listed on the accompanying Form PTO-1449, and other information contained herein, for consideration by the Examiner in connection with the examination of the above-identified patent application. Copies of the patents and publications are enclosed.

**REMARKS**

In accordance with the provisions of 37 C.F.R. 1.97, this statement is being filed (CHECK ONE):

- ☒ (1) within three (3) months of the **filing date** of a national application other than a continued prosecution application under 37 C.F.R. 1.53(d), or within three (3) months of the **date of entry of the national stage** as set forth in 37 C.F.R. 1.491 in an international application, or before the mailing of the **first Office action** on the merits, or before the mailing of a **first Office action** after the filing of a request for continued examination under 37 C.F.R. 1.114; or
- ☐ (2) after the period defined in (1) but before the mailing date of a **final action** or a **notice of allowance** under 37 C.F.R. 1.311, and
- ☐ the requisite Statement is below, **OR**
- ☐ the requisite fee under 37 C.F.R. 1.17(p), namely **\$180.00**, is included herein, or

- ☐ (3) after the mailing date of a **final action** or **notice of allowance** but before the payment of the **issue fee**, **AND**
- ☐ the requisite Statement is below, **AND**
- ☐ the requisite petition fee under 37 C.F.R. 1.17(p), namely **\$180.00** is included herein.

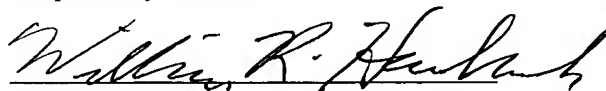
It is respectfully requested that each of the patents and publications listed on the attached Form PTO-1449, and other information contained herein, be made of record in this application.

### STATEMENT

As required under 37 C.F.R. 1.97(e), Applicant(s), through the undersigned, hereby state either that

- ☐ 1. Each item of information contained in the Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application **not more than three months** prior to the filing of the Information Disclosure Statement; or
- ☐ 2. No item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing this Statement after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to **any individual** designated in 37 C.F.R. 1.56(c) **more than three months** prior to the filing of the Information Disclosure Statement.

Respectfully submitted,



William R. Haulbrook, PhD.

Attorney for Applicants

Testa, Hurwitz, & Thibault, LLP

High Street Tower

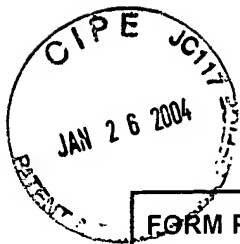
125 High Street

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3008757



FORM PTO - 1449

FIRST SUPPLEMENTAL INFORMATION  
DISCLOSURE STATEMENT

ATTORNEY DOCKET NO.: SNS-010C1

APPLICANT(S): Goodwin et al.

SERIAL NO.: 10/650,155

FILING DATE: August 28, 2003

GROUP: Not Yet Assigned

## U.S. PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A169	5,903,270	05/11/1999	Gentry et al.			
	A170	5,963,212	10/05/1999	Bakalash			
	A171	5,973,678	10/26/1999	Stewart			
	A172	6,064,394	05/16/2000	Morrison			
	A173	6,384,822 B1	05/07/2002	Bilodeau et al.	345	422	10/13/99
	A174	6,608,631	08/19/2003	Milliron			
	A175	2003/0117411	06/26/2003	Fujiwara et al.			

## FOREIGN PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)

## OTHER ART, JOURNAL ARTICLES, ETC.

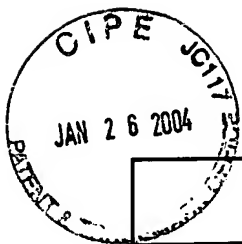
EXAM. INIT.	OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)								
	C69	"3-D Animation Workshop," printed 7/29/03, <a href="http://webreference.com/3d/">http://webreference.com/3d/</a> , Lessons 39, 64-68, and 72; 79 pgs.							
	C70	Alejandro, "What is a Tessellation?" <u>The Math Forum, Drexel University</u> , printed 07/29/03, <a href="http://mathforum.org/sum95/suzanne/whattless.html">http://mathforum.org/sum95/suzanne/whattless.html</a> , 4 pgs.							
	C71	Altmann, "About Nonuniform Rational B-Splines – NURBS," Worcester Polytechnic Institute, printed 7/29/03, <a href="http://www.cs.wpi.edu/~matt/courses/cs563/talks/nurbs.html">http://www.cs.wpi.edu/~matt/courses/cs563/talks/nurbs.html</a> , 6 pgs							
	C72	Arraich, "Quick Mask," <a href="http://www.arraich.com/ref/aatool_quick_mask6.htm">http://www.arraich.com/ref/aatool_quick_mask6.htm</a> , 3 pgs.							
	C73	Bentley, "Rendering Cubic Bezier Patches," Worcester Polytechnic Institute, printed 11/17/03, <a href="http://www.cs.wpi.edu/~matt/courses/cs563/talks/surface/bez_surf.html">http://www.cs.wpi.edu/~matt/courses/cs563/talks/surface/bez_surf.html</a> , 10 pgs.							

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DATE CONSIDERED



C74	Birn, "Tutorial: NURBS Head Modeling," printed 07/29/03, <a href="http://www.3drender.com/jbirn/ea/HeadModel.html">http://www.3drender.com/jbirn/ea/HeadModel.html</a> , 5 pgs.
C75	"Curves," Avid Technology, printed 11/06/03, <a href="http://www.iro.umontreal.ca/~roys/softimage/html/model/curves.html">http://www.iro.umontreal.ca/~roys/softimage/html/model/curves.html</a> , chapter 10, 10 pgs.
C76	Farin, "NURBS," printed 11/17/03, <a href="http://www.eros.caqdeas.asu.edu/~farin/rbook/toc.html">www.eros.caqdeas.asu.edu/~farin/rbook/toc.html</a> , 2 pgs.
C77	Feldman, "Texture Mapping," <a href="http://www.geocities.com/SiliconValley/2151/tmap.html">http://www.geocities.com/SiliconValley/2151/tmap.html</a> (22pgs.)
C78	Fisher et al., "Pixel Values," <a href="http://www.dai.ed.ac.uk/HIPR2/value.htm">http://www.dai.ed.ac.uk/HIPR2/value.htm</a> (1 pg.)
C79	Foskey et al, "ArtNova: Touch-Enabled 3D Model Design," Proceedings of IEEE Virtual Reality 2002, March 24-28, 2002, Orlando, Florida pgs. 119-126.
C80	"Fundamentals of NURBS Modeling," Avid Technology, printed 11/06/03, <a href="http://www.iro.umontreal.ca/~roys/softimage/html/model/nurbs_basics.html">http://www.iro.umontreal.ca/~roys/softimage/html/model/nurbs_basics.html</a> , chapter 9, 7 pgs.
C81	Gu et al., "Global Conformal Surface Parameterization," Eurographics Symposium on Geometry Processing (2003), 12 pgs.
C82	"How to use Postscript Art as a Stencil in Photoshop," Swanson Tech Support, Photoshop Techniques 004, 4 pgs.
C83	Komerska et al., "Haptic Interface for Center-of-Workspace Interaction: Demonstration Paper," Haptics Interfaces for Virtual Environments and Teleoperator Systems (2002), pp. 352-353.
C84	Komerska et al., "Haptic Task Constraints for 3D Interactions," Proceedings, IEEE Haptics Interfaces for Virtual Environments and Teleoperator Systems, (March 22-23, 2003), pp. 270-277.
C85	Lenzmeier, "Color Depth and Color Spaces," <a href="http://www.csbsju.edu/itservices/teaching/c_space/colors.htm">http://www.csbsju.edu/itservices/teaching/c_space/colors.htm</a> (3 pgs.).
C86	"Lesson 12: Blur, Sharpen & Smudge," <a href="http://iit.bloomu.edu/vthc/Photoshop/enhancing/blurring.htm">http://iit.bloomu.edu/vthc/Photoshop/enhancing/blurring.htm</a> , 3 pgs.
C87	"Lesson 14: Selection Tools," <a href="http://iit.bloomu.edu/vthc/Photoshop/BLENDING/selectiontools.htm">http://iit.bloomu.edu/vthc/Photoshop/BLENDING/selectiontools.htm</a> , 7 pgs.
C88	"Lesson 18: Opacity," <a href="http://iit.bloomu.edu/vthc/Photoshop/SpecialEffects/opacity.htm">http://iit.bloomu.edu/vthc/Photoshop/SpecialEffects/opacity.htm</a> , 2 pgs.
C89	"Lesson 22: Vector Shapes," <a href="http://iit.bloomu.edu/vthc/Photoshop/DRAWING/vectorshapes.htm">http://iit.bloomu.edu/vthc/Photoshop/DRAWING/vectorshapes.htm</a> (5 pgs.)
C90	"Lesson 23: Gradients," <a href="http://iit.bloomu.edu/vthc/Photoshop/DRAWING/gradients.htm">http://iit.bloomu.edu/vthc/Photoshop/DRAWING/gradients.htm</a> (7 pgs.)
C91	"Lesson 19: Color Selection," <a href="http://iit.bloomu.edu/vthc/Photoshop/DRAWING/colorpicker.htm">http://iit.bloomu.edu/vthc/Photoshop/DRAWING/colorpicker.htm</a> (4 pgs.)
C92	"Lesson 4: Layers," <a href="http://iit.bloomu.edu/vthc/Photoshop/Basics/layers.htm">http://iit.bloomu.edu/vthc/Photoshop/Basics/layers.htm</a> (2 pgs.)
C93	"Lesson 7: Color Balance," <a href="http://iit.bloomu.edu/vthc/Photoshop/enhancing/colorbalance.htm">http://iit.bloomu.edu/vthc/Photoshop/enhancing/colorbalance.htm</a> (3 pgs.)
C94	"Lesson 8: Brightness & Contrast," <a href="http://iit.bloomu.edu/vthc/Photoshop/enhancing/brightness&amp;contrast.htm">http://iit.bloomu.edu/vthc/Photoshop/enhancing/brightness&amp;contrast.htm</a> (2 pgs.)
C95	Miller et al., "The Design of 3D Haptic Widgets," Proceedings of the 1999 Symposium on Interactive 3D Graphics Conference Proceedings, (1999) pp. 1-6.
C96	Nagel, "A Closer Look: Photoshop's New Paint Engine, Page 2 of 3," March 07, 2002, <a href="http://www.creativemac.com/2002/03_mar/features/ps7dynamics1.htm">http://www.creativemac.com/2002/03_mar/features/ps7dynamics1.htm</a> (6 pgs.).
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C97	Nagel, "A Closer Look: Photoshop's New Paint Engine, Page 3 of 3" March 07, 2002, <a href="http://www.creativemac.com/2002/03_mar/features/ps7dynamics1.htm">http://www.creativemac.com/2002/03_mar/features/ps7dynamics1.htm</a> (5 pgs.).
C98	Nagel, "A Closer Look: Photoshop's New Paint Engine," March 07, 2002, <a href="http://www.creativemac.com/2002/03_mar/features/ps7dynamics1.htm">http://www.creativemac.com/2002/03_mar/features/ps7dynamics1.htm</a> (5 pgs.).
C99	O'Rourke, "Comp.Graphics.Algorithms Frequently Asked Questions, Section 5. 3D Computations," <a href="http://www.exaflop.org/docs/cgafaq/cqa5.html">http://www.exaflop.org/docs/cgafaq/cqa5.html</a> (13 pgs.).
C100	"Points, Nets, Patches..." printed 11/17/03, <a href="http://www.people.nnov.ru/fractal/splines/nets.htm">http://www.people.nnov.ru/fractal/splines/nets.htm</a> , 2 pgs.
C101	Porter et al., "Compositing Digital Images," Computer Graphics, Vol. 18, Number 3, July 1984, pgs. 253-259.
C102	"Powerful Photoshop Layers: Layer Effects Settings," <a href="http://www.webreference.com/graphics/column32/5.html">http://www.webreference.com/graphics/column32/5.html</a> (5 pgs.).
C103	"Raindrop Geomagic, Inc. product description for "Geomagic Shape," 10/3/03 printout, <a href="http://www.geomagic.com/products/shape">http://www.geomagic.com/products/shape</a> , 2 pgs.
C104	"Raindrop Geomagic, Inc. product description for "Geomagic Shape," 11/26/2003 printout, <a href="http://www.geomagic.com/products/shape">http://www.geomagic.com/products/shape</a> , 2 pgs.
C105	"Raindrop Geomagic, Inc. product description for "Geomagic Studio," <a href="http://www.macdac.com/raindrop/studio.htm">http://www.macdac.com/raindrop/studio.htm</a> (4 pgs.).
C106	Rea, "Digital Photography and Electronic Imaging Glossary," Version 7.5.2 (August 2000), 40 pgs.
C107	Rogers, "An Introduction to NURBS," Morgan Kaufmann Publishers, (2000), pp.1-4.
C108	"Sensable Technologies, "Feature Overview," 11/25/03 printout, <a href="http://www.sensable.com/products/3ddesign/freeform/overview.asp">http://www.sensable.com/products/3ddesign/freeform/overview.asp</a> , 5 pgs.
C109	"Sensable Technologies, "Feature Overview: Emboss with Wrapped Image," 11/25/03 printout, <a href="http://www.sensable.com/products/3ddesign/freeform/emboss_with_wrap.asp">http://www.sensable.com/products/3ddesign/freeform/emboss_with_wrap.asp</a> , 1 pg.
C110	"Sensable Technologies, "Free Form Concept System," 01/20/04 printout, <a href="http://www.sensable.com/products/3ddesign/concept/index.asp">http://www.sensable.com/products/3ddesign/concept/index.asp</a> , 2 pgs.
C111	Sharman, "The Marching Cubes Algorithm," <a href="http://www.exaflop.org/docs/marchcubes/ind.html">http://www.exaflop.org/docs/marchcubes/ind.html</a> (6 pgs.).
C112	Sorkine, et. al, "Bounded-distortion Piecewise Mesh Parameterization," Proceedings of the Conference on Visualization 2002, Boston, Massachusetts, pgs. 355-362.
C113	"Surfaces," Avid Technology, printed 11/06/03, <a href="http://www.iro.umontreal.ca/~roys/softimage/html/model/surfs.html">http://www.iro.umontreal.ca/~roys/softimage/html/model/surfs.html</a> , chapter 11, 22 pgs.
C114	"Tensor Product Spline Surfaces," printed 11/17/03, <a href="http://www.ibiblio.org/e-notes/Splines/Inter.htm">http://www.ibiblio.org/e-notes/Splines/Inter.htm</a> , 3 pgs.
C115	"Touch-Enabled 3D Model Design," Department of Computer Science, University of North Carolina at Chapel Hill (February 2002 ), 2pgs.
C116	Weisstein, "Conformal Mapping," Wolfram Research, printed 11/11/03, <a href="http://mathworld.wolfram.com/ConformalMapping.html">http://mathworld.wolfram.com/ConformalMapping.html</a> , 7 pgs.
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